DOCUMENT RESUME

ED 450 084 SP 039 758

AUTHOR Henson, Robin K.
TITLE Relationships between Preservice Teachers' Self-Efficacy, Task Analysis, and Classroom Management Beliefs.
PUB DATE 2001-02-03
NOTE 42p.; Paper presented at the Annual Meeting of the Southwest Educational Research Association (New Orleans, LA, February 1-3, 2001).
PUB TYPE Reports - Research (143) -- Speeches/Meeting Papers (150)
EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Classroom Techniques; Elementary Secondary Education; Higher Education; *Locus of Control; Preservice Teacher Education; *Self Efficacy; Student Behavior; *Student Teacher Attitudes; Student Teachers; *Task Analysis

ABSTRACT

This study examined the multivariate relationships between teacher efficacy and task analysis variables as predictors of classroom beliefs about control, focusing on these relationships in preservice teachers. Preservice teachers from a required educational psychology course volunteered to participate in the study. They completed three instruments: the revised Teacher Efficacy Scale, a short form of the Attitudes and Beliefs on Classroom Control Inventory, and the Means-End Teaching Task Analysis. Data analysis indicated that more efficacious student teachers were less interventionist regarding instructional and people classroom management beliefs. Task analysis was unrelated to management beliefs. However, preservice teachers exhibited a clear dichotomy regarding their locus of control for task analysis elements. The task analysis suggested differential locus of control for elements that helped teaching (attributed to the self) and elements that hindered teaching (attributed to external constraints). (Contains 43 references.) (SM)

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Running head: SELF-EFFICACY AND CLASSROOM MANAGEMENT

ED 450 084

Relationships Between Preservice Teachers' Self-efficacy, Task Analysis, and Classroom Management Beliefs

Robin K. Henson

University of North Texas 76203-1337

R.K. Henson

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Paper presented at the annual meeting of the Southwest Educational Research Association, February, 3, 2001, New Orleans. Correspondence should be sent to the author at rhenson@tac.coe.unt.edu.

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Abstract

The purpose of the present study was to examine the multivariate relationships between teacher efficacy and task analysis variables as predictors of classroom management beliefs about control. Specifically, the study investigated these relationships in preservice teachers in an effort to inform teacher education practices. Results indicated that efficacious teachers were less interventionist regarding instructional and people classroom management beliefs. Task analysis was unrelated to management beliefs. However, the task analysis did suggested differential locus of control for elements that help teaching (attributed to the self) and elements that hinder teaching attributed to external constraints).

Relationships Between Preservice Teachers' Self-efficacy, Task Analysis, and Classroom Management Beliefs

Teacher efficacy has been one of the few variables consistently related to positive teaching behavior and student outcomes. As Woolfolk and Hoy (1990) noted, "Researchers have found few consistent relationships between characteristics of teachers and the behavior or learning of students. Teachers' sense of efficacy . . . is an exception to this general rule" (p. 81). Given the potential value of the construct, many researchers have linked teacher efficacy to a variety of school variables. Specifically, some have examined the relationship between self-efficacy and teachers' classroom management activities, such as facilitating small group discussion and persisting with students (Gibson & Dembo, 1984; Podell & Soodak, 1993).

Because classroom management issues are generally high on the list of teachers' concerns about education (Johns, MacNaughton, & Karabinus, 1989; Woolfolk, 1998), the relationships between teachers' classroom management and self-efficacy beliefs may speak to ways in which an individual's expectation for success impacts classroom management behavior. Of course, these relationships are likely cyclical, such that classroom management behavior likely affects one's beliefs in

his or her ability to succeed (self-efficacy). As many researchers have shown, managing student behavior and the classroom context is critical in establishing an effective learning environment (cf. Emmer, Evertson, Clements, & Worsham, 1997; Evertson, Emmer, Clements, & Worsham, 1997). A teacher's belief in his or her ability to positively facilitate student learning may affect how the teacher attempts to manage this context.

Classroom management and self-efficacy beliefs are also relevant to preservice teachers. The beliefs that prospective teachers have about how to manage their classes and how effective they might be likely impacts their perceived success once they enter the teaching field. Constructivist theoretical perspectives would also suggest that a preservice teacher's frame of reference for these issues would work as a filter during their education and novice years.

For example, Woolfolk and Hoy (1990) argued that prospective teachers' beliefs about student control would impact how they facilitated their classrooms. In a study of 182 preservice teachers, they found that persons with high efficacy were more humanistic in how they viewed students and held a lower pupil control ideology. Regarding student control, Martin, Yin, and Baldwin (1998) used the work of Glickman and Tamashiro (1980) and Wolfgang (1995) to develop an instrument

that purports to measure three aspects of classroom management beliefs (instructional, people, and behavioral) along a continuum of control. A theoretical continuum was used to describe teachers who focus on the external environment and behavior modification (interventionists) versus those who focus on what the individual does to alter the environment (non-interventionists). Somewhere between these extreme types are the interactionalists, who combine the other belief systems. These beliefs systems no doubt impact teacher behavior in the classroom.

Teacher self-efficacy is an important variable in teachers' classroom management approaches. Teacher efficacy is conceptually distinct from measures of personality because it refers to a specific self-referent belief in a teacher's ability to organize and execute the actions necessary to reach certain attainments. This perspective is context specific as opposed to generalized personality traits (Pajares, 1996). More specifically, Tschannen-Moran and Woolfolk Hoy (in press) defined teacher efficacy as a teacher's "judgment of his or her capabilities to bring about desired outcomes of student engagement and learning, even among those students who may be difficult or unmotivated." The idea that teacher's self-beliefs are determinants of teaching behavior is a simple, yet powerful idea.

The correlates of teacher efficacy are many. Students of efficacious teachers have outperformed students of other teachers on a variety of achievement tests (Anderson, Greene, & Loewen, 1998; Moore & Esselman, 1992; Ross, 1992). Watson (1991) observed greater achievement in rural, urban, majority Black, and majority White schools for students of efficacious teachers. Regarding classroom management behaviors, efficacious teachers persist with struggling students and criticize less after incorrect student answers (Gibson & Dembo, 1984). They are also more likely to agree that a low SES student should be placed in a regular education setting and less likely to refer students for special education (Meijer & Foster, 1988; Podell & Soodak, 1993; Soodak & Podell, 1993). Teachers with high efficacy tend to experiment with methods of instruction, seek improved teaching methods, and experiment with instructional materials (Allinder, 1994; Guskey, 1988; Stein & Wang, 1988).

The study of teacher efficacy has recently underwent dramatic change. New theoretical models of teacher efficacy are beginning to drive efficacy research. For example, Tschannen-Moran, Woolfolk Hoy, and Hoy (1998) presented a comprehensive model of efficacy development. An important component of their model is the concept of task analysis. Tschannen-Moran et al. (1998) argued that teacher efficacy actually is a joint, simultaneous function of a teacher's analysis of the teaching

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task and his or her assessment of his or her personal teaching competence or skill. As described by Tschannen-Moran et al.: "In analyzing the teaching task and its context, the relative importance of factors that make teaching difficult or act as constraints is weighed against an assessment of the resources available that facilitate learning" (p. 228, italics in original). The task analysis evaluates the specific elements of a teaching situation, an evaluation which ultimately impacts self-efficacy judgments. It is also reasonable to suspect that a teacher's evaluation of the teaching task would impact classroom management beliefs, and perhaps the perceived need to exert control over the environment.

Therefore, the purpose of the present study was to examine the multivariate relationships between teacher efficacy and task analysis variables as predictors of classroom management beliefs about control. Specifically, the study investigated these relationships in preservice teachers in an effort to inform teacher education practices.

Method

Participants and Procedures

Preservice teachers enrolled in a required educational psychology course in a large university in the southwest U.S. were asked to volunteer participation in the study. Participation had no impact on their course grade. A packet of

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three instruments were handed out and 127 were returned. One packet was eliminated due to excessive data leaving a final sample size of 126.

The sample was predominately female (90.5%), white (90.5%), and in their senior year (86.5%; junior, 11.1%). The students were more varied in their teaching level (elementary, 58.7%; secondary, 24.6%; early childhood, 11.1%; other, 5.6%) and with an average age of 21.6 (SD = 1.6).

The participants first completed a 10-item version of the Teacher Efficacy Scale as revised by Hoy and Woolfolk (1993). The second instrument was the 26-item short form of the Attitudes and Beliefs on Classroom Control Inventory (Martin, Yin, & Baldwin, 1998). The final instrument was the Means-End Teaching Task Analysis (Henson, Bennett, Sienty, & Chambers, 2000) which is described below. The packet took approximately 25 minutes to complete.

Instrumentation

Hoy and Woolfolk's (1993) revised Teacher Efficacy Scale (TES). Gibson and Dembo (1984) developed the Teacher Efficacy Scale to measure two dimensions of teacher efficacy: personal teaching efficacy (PTE) and general teaching efficacy (GTE). Hoy and Woolfolk (1993) reported a shorter and slightly revised 10-item version of the TES with five items assessing the PTE and GTE constructs and score reliabilities of .77 and .72,

respectively. A seven-point Likert scale was used anchored at strongly disagree (1) and strongly agree (7).

The Hoy and Woolfolk (1993) version of the TES (herein referred to simply as TES) was used in the present study with two alterations. First, efficacy judgments theoretically are assessments of future performance rather than current ability (Bandura, 1997; Henson et al., 2000; Tschannen-Moran et al., 1998). Accordingly, several of the items were altered to make them explicitly future tense. Second, while it is generally accepted that PTE assesses a teacher's perceived ability to execute actions necessary to impact student learning (self-efficacy), the GTE scale has come under fire regarding its construct validity (Coladarci & Fink, 1995; Guskey & Passaro, 1994; Henson et al., 2000; Tschannen-Moran et al., 1998) and score reliability (Henson, Kogan, Vacha-Haase, in press). Therefore, the GTE scale was renamed and interpreted as external attributions for student failure (EASF) so as to better reflect the construct being measured. The two factors (PTE and EASF) are generally uncorrelated.

The PTE scale was used in the present study as a global assessment of efficacy that is not connected to any teaching context per se. This interpretation is supported with prior research (Henson et al., 2000) and theoretical formulations (cf. Tschannen-Moran et al., 1998).

Attitudes and Beliefs on Classroom Control Inventory (ABCC). Martin et al. (1998) presented a 26-item scale proposing to measure three orthogonal dimensions of classroom management control: instructional, people, and behavior management. Each scale was derived to assess a continuum of control (cf. Glickman & Tamashiro, 1980; Wolfgang, 1995) ranging from interventionist to interactionalist to non-interventionist, with interventionists expressing the greatest need/desire to control and manipulate the classroom environment. According to Martin et al. (1998, p. 7), the instructional management scale (14 items) "includes aspects such as monitoring seatwork, structuring daily routines, and allocating materials;" the people management scale (8 items) "pertains to what teachers believe about students as persons and what teachers do to develop the teacher-student relationship;" and the behavioral management scale (4 items) "includes setting rules, establishing a reward structure, and providing opportunities for student input." Although Martin et al. argued for a three factor orthogonal solution, the people and behavioral management factors had a moderate interfactor correlation (r = .484) in their study and some items appear to share similar characteristics. Henson and Roberts (2001) also provided evidence of corrlation between these factors in a confirmatory factor analysis of the ABCC with preservice teachers. Therefore, factor analysis was conducted in the

present study to examine the possibility of a two-factor solution (see below). Several items were reverse scored so that high scores on each scale are representative of a stronger interventionist perspective.

Means-End Teaching Task Analysis (METTA). To measure task analysis in a reasonably specific context, the Means-End Teaching Task Analysis (METTA; Henson et al., 2000) was used. The METTA consists of a case study and three response sections. The case study approach helps build context around task analysis decisions and self-efficacy judgments (cf. Ashton, Buhr, & Crocker, 1984). The case study was specifically designed to provide a context to stimulate thought but was left ambiguous concerning details in an attempt to allow teachers to bring their own history and experiences to the situation. Three challenges with teaching a particular student are presented in the case study: providing effective instruction, facilitating the student's motivation, and managing the student's behavior.

After reading the case study, respondents complete two sections designed to measure task analysis. In the first section, teachers are asked to list what would make it difficult for them to teach the student and for the student to learn. Respondents are told to answer according to their personal experiences and are cued to potentially list elements such as resources, personal abilities, influences, and/or experiences.

After listing these items, each item is then rated concerning its importance in interfering with the student's learning or the teacher's teaching. This scale is anchored at "not very difficult" (1) and "very difficult" (5). The second section asks teachers to list what would help in teaching the student and for the student to learn. Again, respondents are told to answer according to their experiences and are given the same cues as above. After listing potentially helpful elements, each item is then rated concerning its importance in contributing to the student's learning and the teacher's teaching. A five-point scale is also used here.

The rating process is included to allow teachers to differentially weight the perceived importance of elements in helping or making teaching difficult. Resources and constraints vary in how much influence they may exert as perceived by a given teacher. For the present study, two task analysis scores were created by summing the ratings for the helpful items and difficult items. These sums were used as separate variables to examine the relative importance of perceived helpful elements versus perceived difficult elements in the teaching task.

The third METTA response section consists of a 6-item efficacy measure with a seven-point scale anchored at "strongly disagree" (1) and "strongly agree" (7). All items were modeled after the PTE scale of the TES. However, to help maintain

correspondence and reasonable specificity in the efficacy measurement (cf. Pajares, 1996), the content of the items directly relate to the student in the case study. The items measure efficacy related to the three areas of challenge reflected in the case study: providing instruction (2 items), facilitating motivation (2 items), and managing behavior (2 items). Two items from each efficacy subscale are reverse' scored to guard against response bias.

Importantly, the gender of the student ("David" v. "Rachel") in the METTA case study was alternated in the protocol among respondents to help control for potential gender bias (e.g., "that male students are more disruptive and therefore harder to manage"). Additionally, the order that respondents were asked to list helpful items or difficult items was also counterbalanced in the protocols to help control for primacy or recency measurement artifacts.

Data Analysis

All instruments were submitted to factor analysis to examine if the expected factor structure was present in the current data (Henson & Roberts, in press; Thompson & Daniel, 1996). Exploratory methods were used due to the insufficient sample size typically demanded by confirmatory approaches. Descriptive statistics are presented for all variables and bivariate correlations were used to examine simple

relationships. Canonical correlation analysis was used to assess the multivariate relationships between efficacy and task analysis variables as predictors of classroom management beliefs.

Results

Factor and Reliability Analyses

Classroom management beliefs. The interitem correlation matrix of the 26-item ABCC was submitted to principal components analysis. Eight eigenvalues greater than one were observed but the scree plot suggested a three-factor structure. Because the eigenvalue greater than one rule tends to overestimate the number of factors, and the scree plot tends to be more accurate (Zwick & Velicer, 1986), three factors were extracted and rotated to the oblimin criterion (delta = 0). The interfactor correlations were low, ranging from .01 to -.21, so a varimax solution was used. Using an item's highest factor pattern/structure coefficient as the criterion for defining a factor, six items did not behave as expected. After deleting these items the scree plot indicated a clear two-factor solution, which was confirmed with a parallel analysis. One item failed to weight on the expected factor. This item was dropped and the analysis was rerun. The final two-factor solution explained 33.1% of the correlation matrix variance.

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The factors corresponded to the instructional and people management scales of the ABCC. The two surviving items in the behavioral management scale were subsumed by the people management factor. This outcome reflects a confirmatory factor analysis by Henson and Roberts (2001) and the findings of Chambers, Henson, and Sienty (2001). Scale variables were created by taking the unweighted mean of all items defining the scale in the factor analysis (INSTR and PEOPLE). High scores on both variables indicate greater tendency toward interventionist management beliefs. Table 1 presents descriptive statistics and coefficient alphas for the variables.

INSERT TABLE 1 ABOUT HERE

Contextual teaching efficacy. The six self-efficacy items from the METTA assess efficacy for instruction, behavioral management, and student motivation in reference to a case study. Principal components analysis was conducted on the interitem correlation matrix. One eigenvalue was greater than unity and one factor was indicated by both the scree plot and a parallel analysis. All six items had factor pattern/structure coefficients greater than .65 and the factor accounted for 58.0% of the correlation matrix variance. Variable scores were created with an unweighted mean of the items (CTE). High scores indicate

greater efficacy. Table 1 reports descriptive statistics and coefficient alpha for the scores.

Personal teaching efficacy and external attributions for student failure. The interitem correlation matrix of the ten items from the Hoy and Woolfolk (1993) revised version of the Teacher Efficacy Scale (Gibson & Dembo, 1984) was also submitted to principal components analysis. This procedure was particularly relevant considering the possible problems historically evident in teacher efficacy measurement (cf. Guskey & Passaro, 1994, Henson et al., in press; Tschannen-Moran et al., 1998). As indicated by the eigenvalues, scree plot, and parallel analysis, two factors accounting for 46.6% of the matrix variance were extracted and rotated to the oblimin (delta = 0) criterion. As hypothesized by Hoy and Woolfolk, the interfactor correlation was near zero (r = -.09) so a varimax-rotated solution was used. All items had factor pattern/structure coefficients as expected with a cutoff of .45, and the two factors corresponded to the personal teaching efficacy (PTE) and external attributions of student failure (EASF) constructs. (Note: The EASF variable is renamed here in lieu of the general teaching efficacy title to better represent its content and honor current thought in the field [cf. Guskey & Passaro, 1994, Henson et al., in press; Tschannen-Moran et al., 1998].) Variables were computed using the unweighted mean of

items on for each factor (PTE and EASF). High scores on PTE indicate greater global personal teaching efficacy. High scores on EASF indicate greater tendency to attribute student failure to external causes (e.g., home environment, lack of discipline). Table 1 reports descriptive statistics and internal consistency estimates for the variables.

Locus of Control for Task Analysis

The task analysis items listed as helping and making instruction difficult for the METTA case study were identified as representing either an internal (self) or external (other) locus of control orientation. Two raters conducted blind classifications of each item listed. For the help items, interrater agreement was 79.38%; for the difficult items, interrater agreement was 90.80%; for all items together, agreement was 84.78%. Items receiving contradictory ratings were discussed between raters until one rating was settled upon.

An internal versus external orientation difference score was created for both the help and difficult items. This was accomplished by subtracting the number of entries representing an external (other) locus of control from the number of entries identified as internal (self) locus of control. The resulting score represents the locus of control tendency for the task analysis elements, such that negative scores would suggest

greater focus on external elements in the teaching situation for either the help (LOC-HELP) or difficult (LOC-DIFF) items.

Table 1 presents descriptive statistics for these two variables. The difficult elements in the teaching situation were generally attributed to external causes while helping was the responsibility of the self. A paired samples t-test indicated a statistically significant difference for the internal versus external orientation scores between the help and difficult elements, $t(125) = -14.25$, $p < .001$ (95% confidence interval of the paired difference mean: -6.14 to -4.64).

Pearson r correlations were conducted between the locus of control orientations for help items (LOC-HELP) and difficult items (LOC-DIFF) and the classroom management variables (INSTR and PEOPLE). Results indicated essentially no relationship between management beliefs and locus of control for difficulty in teaching (INSTR: $r = .03$, $p = .73$; PEOPLE $r = .03$, $p = .73$). The correlations between the management beliefs and locus of control for helping in teaching were statistically significant in the negative direction but substantively small (INSTR: $r = -.18$, $p = .04$; PEOPLE: $r = -.18$, $p = .05$), suggesting a slight tendency for the preservice teachers to be less interventionist as regards classroom management when they perceive themselves as responsible for helping the teaching situation.

Management Beliefs with Efficacy and External Attributions

A canonical correlation analysis (cf. Henson, 2000; Knapp, 1978; Thompson, 1991) was conducted to examine the multivariate relationship between global personal teaching efficacy (PTE), contextual teaching efficacy (CTE), and external attributions for student failure (EASF) as predictors of the two classroom management constructs (INSTR and PEOPLE). It was anticipated that contextual efficacy would be more predictive of classroom management than global efficacy because of its more precise nature and that both efficacy variables would be negatively related to the interventionist management beliefs. Furthermore, external attributions for failure was expected to be positively related to interventionism.

Using the Wilks lambda criterion (Λ = .82), the full canonical model was statistically significant, $F(6, 242) = 4.25$, $p < .001$, and yielded an overall variance-accounted-for effect of 18.15% (1 - Λ). Two canonical functions were generated. The first function accounted for Rc^2 = 14.90% of the overall effect with the second explaining Rc^2 = 3.80% of the variance between variable sets. The final function was not statistically significant, $F(6, 122) = 2.42$, $p = .093$, using the Wilks criterion.

Table 2 present results for the first canonical function (see Analysis One). The second function is not presented or

interpreted due to its low effect size, a decision analogous to not extracting or interpreting factors failing to account for substantial amounts of variance in a factor analysis (cf. Gorsuch, 1983; Henson & Roberts, in press).

INSERT TABLE 2 ABOUT HERE

Examination of the standardized function and structure coefficients indicates that instructional and people management made roughly equal contributions the composite criterion variable. The primary predictor was external attributions for student failure. Although the standardized weights for personal and contextual teaching efficacy were low, the structure coefficients indicate that they made moderate contributions to the predictor composite variable of about 20% and 27%, respectively. As hypothesized, external attributions was positively related to and the self-efficacy variables were negatively related to classroom management beliefs. Furthermore, and also as hypothesized, contextual teaching efficacy was a stronger predictor than the more global-oriented personal teaching efficacy.

Management Beliefs with Task Analysis

Canonical correlation was also used to examine the predictive effect of the two task analysis variables on the classroom management beliefs. Task analysis was operationalized

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as elements in the METTA case study that would help the teaching situation and elements that would make the situation difficult. The preservice teachers provided two free-response lists of elements and then rated the strength of each element on a five-point Likert scale. Task analysis variables were created by summing the ratings for elements that help (HELP) and hinder (DIFF) the teaching situation. Accordingly, the variables represent both the salient elements and the relative importance of those elements in the teaching situation as perceived by the preservice teachers.

The full canonical model was not statistically significant, $F(4, 244) = 1.73$, $p = .144$, using the Wilks criterion ($\Lambda = .95$) but yielded a small effect of 5.43%, suggesting the analysis was somewhat underpowered. The first function accounted for almost all of this effect ($Rc^2 = 4.70\%$) and is reported in Table 2 (see Analysis Two). The second function is not reported.

Looking at Table 2, instructional management was practically the sole contributor to composite criterion variable and was predicted by elements that help with a secondary contribution from elements that make the teaching situation difficult. As hypothesized, both task analysis variables were negatively related to instructional management.

Discussion

The preservice teachers in the present study exhibited a clear dichotomy regarding their locus of control for task analysis elements. When asked to list elements of the teaching situation that would help them instruct the student in the METTA case study, they predominately generated issues that were attributable to the self. For example, one respondent indicated that she would be able to adjust the assignments to the student's level to help the student avoid frustration. Conversely, when asked to list elements in the teaching situation that would make instruction difficult, the teachers-in-training predominantly produced issues that were best classified as out of the teacher's control or attributable to others. This external locus of control is illustrated by one teacher's comment that the student's low motivation would make instruction difficult.

This difference in response patterns points to the preservice teachers' tendency to assume responsibility for helping instruction but attribute responsibility for difficulty elsewhere. While this pattern may be a typical human self-preservation response, its function in the professionalism of teaching is somewhat troubling. Specifically, two issues should be noted. First, one might hope that the participants would perceive other sources of instructional help beyond their own

actions, thereby expanding their teaching repertoire. Second, the attribution of difficulty to external factors may point to an avoidance of responsibility, or potentially unrecognized areas in need of professional development.

Although one might expect an external locus of control orientation to be positively related to interventionist classroom management beliefs, locus of control for difficulty in teaching was unrelated to instructional and people classroom management. Regarding locus of control for helping in teaching, there was a statistically significant, albeit small, tendency for the preservice teachers to be less interventionist when attributing help to themselves. Accordingly, the present results do not clearly support a relationship between the locus of control orientations and the participants' attitudes toward classroom management control.

The first canonical analysis indicated that instructional and people management beliefs were both positively related to the preservice teachers' external attributions for student failure, indicating an increased tendency to attribute failure to external factors such as the home environment and poor motivation when expressing a need/desire to control the classroom environment. One explanation for this finding is that failure is more psychologically threatening when the teacher perceives a greater need to control instructional activity and

people management. Therefore, when failure is encountered, there exists a tendency to attribute that failure to external factors, thereby making the outcome less threatening to the self.

As hypothesized, more efficacious participants reported less interventionist attitudes toward classroom management. This finding is consistent with the above self-preservation interpretation. For example, increased expectation that one can perform the actions necessary to lead to success (self-efficacy) may make the idea of failure less threatening, and accordingly, the perceived need/desire for classroom control diminishes. Furthermore, it has been repeatedly shown that teacher efficacy is associated with positive teaching outcomes (cf. Tschannen-Moran et al., 1998). One would then expect efficacious teachers to perceive and experience less failure, which likely corresponds to a decreased need to guard against such an outcome.

Consistent with self-efficacy theory (Bandura, 1996), the teaching efficacy variables provided different levels of prediction of classroom management beliefs. The context specific measure based on the case study provided more predictive power than the global personal teaching efficacy measure. This finding evidences Pajares' (1996) claim that "Omnibus tests that aim to assess general self-efficacy provide global scores that

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decontextualize the self-efficacy-behavior correspondence and transform self-efficacy beliefs into a generalized personality trait. . ." (p. 547). The result also mirrors the findings of Henson et al. (2000) who found "differential prediction based of the level of generality of the criterion efficacy variable." As suggested by Pajares (1996), self-efficacy is more precisely assessed when referencing specific situations as opposed to general estimations of ability.

The second canonical analysis indicated a small relationship between the task analysis variables and instructional management, but not people management. The strength of the elements that would help teaching the student in the METTA case study was the primary predictor with secondary contribution by the strength of elements that would make instruction difficult. As hypothesized, both effects were negative, indicating that, for the small effect observed, interventionism is associated with a more restricted task analysis response with either fewer elements listed or lower ratings associated with the elements, or both.

The finding provides some support for the hypothesis that an interventionist perspective is related to a limited repertoire of teaching skills. The present results suggest this is potentially true regardless of whether the task analysis regards elements that help or hinder the teaching situation.

Accordingly, skill development and awareness may be more important than internal or external locus of control orientation, an encouraging possibility because skill development is likely more readily impacted by teacher educators than personality styles. However, it is unclear if a limited repertoire influences interventionism, if interventionist beliefs limit the development of teaching skills, or if the process is cyclical.

This investigation has several implications for teacher education. It is apparent that the current preservice teachers differentially attributed teaching help and difficulty to internal and external causes, respectively. For the reasons noted above, this dichotomy may represent a threat to teaching professionalism. A more professional model may embody recognition of helpful resources outside of the self (e.g., parental roles, community agencies) and introspection toward personal contribution to difficulties (e.g., personal biases, lack of motivation). Teacher education programs may address both of these issues in methods courses by integrating multiple resources and practice recognizing areas in need of professional development. Unfortunately, classroom management is often short-changed in teacher education, and not uncommonly is relegated to a short unit in an educational psychology course. Field-based

programs may have a greater opportunity to confront these issues on a real world context.

Furthermore, if constructivist and proactive approaches are preferred over more interventionist and controlling methods on classroom management, then teacher education programs should seek methods to foster reasonable internal attributions for student success and failure and facilitate development of self-efficacy. According to Bandura (1997), self-efficacy is built through four sources of information: mastery experiences, vicarious experiences, social persuasion, and emotional/physiological arousal. Of these, mastery experiences are thought to be the most powerful forces on efficacy. In the context of the present study, teacher education programs should seek mastery experiences in classroom management using the methods valued by the program.

Such experiences beg the use of field-based or professional development school opportunities early in the education program. Of course, other options are possible. Henson (in press) observed strong efficacy growth for practicing teachers during a teacher research initiative. Also studying practicing teachers, Ross (1994) observed efficacy increases during an eight month inservice. What is appears clear from the literature is that efficacy change, while possible, seldom comes from one-shot workshops, and when change is observed, it fades quickly (see

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e.g., Ohmart, 1992). Tschannen-Moran et al. (1998) suggested that efficacy change in preservice teachers can be accomplished by providing "more opportunities for actual experiences with instructing and managing children in a variety of contexts with increasing levels of complexity and challenge to provide mastery experiences and specific feedback" (p. 235-236).

Future research should further assess tne relationships between efficacy, locus of control, task analysis, and classroom management beliefs. Specifically, experimental studies, when possible, can test what variables impact management beliefs and which may mediate the process. Researchers should consider theory development by assessing explanatory models. One area of current development involves conceptualizations of teacher efficacy. Tschannen-Moran et al. (1998) proposed a model of efficacy that purports to integrate several important components of social cognitive (Bandura, 1997) and locus of control theories (Rotter, 1966). Henson et al. (2000) and Goddard, Hoy, and Woolfolk Hoy (2000) found some preliminary support for the model. Model development may extend to examine links between efficacy and classroom management beliefs. Finally, the impact of professional development initiatives such as teacher research and other extended, teacher-centered programs show considerable promise for impacting change toward positive outcomes. This appears true for practicing teachers (cf. Henson, in press;

Knight & Boudah, 1998) and many teacher education programs are now using some version of collaborative action research in their curriculum (cf. Henderson, Hunt, & Wester, 1999).

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Table 1

Descriptive Statistics and Coefficient alpha for Variables.

Variable	M	SD	alpha	No. items	Scale
INSTR	2.84	.48	.76	9	4 point
PEOPLE	2.46	.45	.70	10	4 point
CTE	5.27	.73	.85	6	7 point
PTE	4.73	.66	.68	5	7 point
EASF	3.68	.91	.67	5	7 point
HELP	21.37	9.27	-	-	-[a]
DIFF	14.80	6.75	-	-	-
LOC-HELP	3.63	3.12	-	-	-
LOC-DIFF	-1.77	3.16	-	-	-

Note. INSTR = Instructional Classroom Management, PEOPLE = People Classroom Management, CTE = Contextual Teaching Efficacy, PTE = Personal Teaching Efficacy, EASA = External Attributions for Student Failure, HELP = Elements that help instruction in the METTA case, DIFF = Elements that make instruction difficult in the METTA case, LOC-HELP = Locus of Control for elements that help instruction in the METTA case, LOC-DIFF = Locus of Control for elements that make instruction difficult in the METTA case.

[a] If scale is not indicated, then variable is potentially continuous from free response data.

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Table 2

Canonical Correlation Solutions for Two Analyses

Analysis One[a]				Analysis Two[b]			
Variable/ Statistic	Funct.	r_s	r_s^2	Variable/ Statistic	Funct.	r_s	r_s^2
INSTR	.682	.759	57.61%	INSTR	1.005	.998	99.60%
PEOPLE	.656	.735	54.02%	PEOPLE	-.060	.058	0.34%
Rc^2			14.90%	Rc^2			4.70%
PTE	-.184	-.449	20.16%	HELP	-.905	-.977	95.45%
CTE	-.212	-.517	26.73%	DIFF	-.226	-.512	26.21%
EASF	.857	.943	88.92%				

Note. Func. = standardized canonical function coefficient; r_s = structure coefficient; Rc^2 = squared canonical correlation; Ad = Adequacy coefficient; Rd = Redundancy coefficient; PTE = Personal Teaching Efficacy; CTE = Contextual Teaching Efficacy from METTA case; EASF = External Attributions for Student Failure; HELP = sum of ratings for elements that

help instruction in the METTA case; DIFF = sum of ratings that make instruction difficult in the METTA case.

[a] Analysis One predicts classroom management beliefs with the efficacy and external attributions variables.

[b] Analysis Two predicts classroom management beliefs with the task analysis variables.